Amendments to the Specification:

Please replace paragraph [0005] with the following rewritten paragraph:

[0005]   U.S. Patent ~~Application~~No. ~~09/584,264~~6,642,506, which is incorporated herein by reference in its entirety, discloses a variety of different embodiments of a speckle-image-based optical transducer. As disclosed in the 264 application, such image-based correlation systems can move the surface being imaged relative to the imaging system in one or two dimensions. Furthermore, the surface being imaged does not need to be planar, but can be curved or cylindrical. Systems having two dimensions of relative motion between the surface being imaged and the imaging system can have the surface being imaged effectively planar in one dimension and effectively non-planar in a second dimension, such as, for example, a cylinder which can rotate on its axis passed the imaging systems, while the cylindrically surface is translated past the imaging system along its axis.

Please replace paragraph [0006] with the following rewritten paragraph:

[0006]   U.S. Patent ~~Application~~No. ~~09/731,671~~6,873,422, which is incorporated herein by reference in its entirety, discloses systems and methods for high-accuracy displacement determination in a correlation-based position transducer. In the 671 application, a system is provided that estimates the sub-pixel displacement of images in correlation-based position transducers and the like. The system then rejects the systematic displacement estimation errors present when conventional sub-pixel estimation methods are applied to a number of correlation function value points, especially when the correlation function value points are arranged asymmetrically.

Please cancel paragraph [0010].